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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,771

12/12/2007

Philip Nigel Bartlett

P-7915-US

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49443 7590 09/15/2010  
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EXAMINER

MERCADO, JULIAN A

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

09/15/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/538,771	<b>Applicant(s)</b> BARTLETT ET AL.	
	<b>Examiner</b> JULIAN MERCADO	<b>Art Unit</b> 1795	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5-04-2007</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The Information Disclosure Statement (IDS) filed on 5-04-2007 has been considered by the examiner.

Claims 1-17 are pending.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-9 and 11-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-7, 9, 11, 13 and 15 each recites the limitation "said mesoporous structure". There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is unclear if the mesoporous structure being referenced is the mesoporous nickel in the cathode or the mesoporous material of the anode, or both.

Claims 6, 15 and 16 each recites the limitation "the pores". It is unclear if the pores being referenced are the pores in the cathode or the pores in the anode, or both.

Claims 8, 12, 14 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon a rejected base claim.

Art Unit: 1795

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al. (U.S. Pat. 6,153,334) in view of Ebihara et al. (U.S. Pat. 6,331,367)

Sakamoto et al. teaches an electrochemical cell comprising a cathode, an anode and an electrolyte, wherein the cathode comprises mesoporous nickel hydroxide having a periodic arrangement of substantially uniformly sized pores of cross-section of 40 Å. See col. 5 lines 34-49.

Sakamoto et al. does not explicitly teach its anode to have a periodic arrangement of substantially uniformly sized pores of cross-section of  $10^{-9}$  to  $10^{-8}$ . However, Ebihara et al. teaches a mesoporous anode having a pore diameter of 1.5 to 2.0 nm. The skilled artisan would find obvious to modify Sakamoto et al. by employing the anode of Ebihara et al. The motivation for such a modification is in view of Ebihara et al.'s anode being "excellent in high-rate charge and discharge characteristics." (Ebihara et al. in col. 3 lines 14-20) The examiner further notes that Ebihara et al.'s anode is a mixed metal hydride which is *the same type* of negative electrode disclosed by Sakamoto et al. See Sakamoto et al. in col. 8 line 64 et seq.

As to the claimed pore diameters, pore number density, pore periodicity or film thickness, it is asserted that determining where the optimum combination of these parameters lies is *prima facie* obvious. *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ 2d 1379, 1382-83 (Fed. Cir.

Art Unit: 1795

2003); see also *In re Geisler*, 116 F.3d 1465, 1470, 43 USPQ 2d 1362, 1365 (Fed. Cir. 1997)

("[I]t is not inventive to discover the optimum or workable ranges by routine experimentation."

(quoting *In re Aller*, 220 F.2d 454, 456, 105 USPQ 223, 235 (CCPA 1995)).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Pat. 6,117,592 to Hoshino et al. and U.S. Pat. 7,147,676 to Dansui et al. are cited of cumulative relevance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 1795

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

/Julian Mercado/  
Examiner, Art Unit 1795

/Patrick Joseph Ryan/  
Supervisory Patent Examiner, Art Unit 1795